

REMARKS

Applicant has carefully reviewed and considered the Final Office Action mailed on January 8, 2007, and the references cited therewith.

Claims 1, 12, 17-18, 23, and 27 are amended, and no claims are canceled or added; as a result, claims 1-30 are now pending in this application.

Claim Objections

Claim 18 recites the limitation “the device” in line 7 of the claim. There is insufficient antecedent basis for this limitation to the claim. For the purpose of examination, Examiner assumes that “the device” refers to the apparatus.

Claim 18 is objected to because of the following informalities: please change the semicolon at the end of line 4 to a colon. Appropriate correction is requested.

Applicant has amended independent claim 18 to resolve both of the above issues as suggested by the Examiner.

§ 102 Rejection of the Claims

Claims 18, 22-24 and 26 were rejected under 35 USC § 102(b) as being anticipated by Kimura et al. (U.S. Patent No. 6,796,627). Applicant respectfully traverses the rejection as follows.

The Kimura reference appears to teach, an “ink jet recording apparatus, method of replenishing ink to subtank in the apparatus, and method of checking the replenished amount of ink”. (Title). The Kimura reference does not teach transfer of ink from a supply tank to a print cartridge reservoir via a pump using a variable refill frequency resulting from when an ink volume remaining in the supply tank substantially equals an ink volume used to refill the print cartridge reservoir.

In contrast, Applicant’s independent claim 18, as amended, presently recites:

transfer ink from the supply tank to the print cartridge reservoir via the pump using a variable refill frequency resulting from when an ink volume remaining in the supply tank substantially equals an ink volume used to refill the print cartridge reservoir.

In addition, Applicant's independent claim 23, as amended, presently recites:

transfer ink from the supply tank to the print cartridge reservoir using a variable refill frequency resulting from when a total ink volume remaining in the supply tank substantially equals an ink volume to refill the print cartridge reservoir.

As such, Applicant respectfully submits that each and every element and limitation of independent claims 18 and 23, as amended, is not taught in the Kimura reference. Accordingly, Applicant respectfully request reconsideration and withdrawal of the § 102 rejection of independent claims 18 and 23, as well as those claims that depend therefrom.

§ 103 Rejection of the Claims

Claims 1-2, 12, 17, 27, 28 and 30 were rejected under 35 USC § 103(a) as being unpatentable over Cowger et al. (U.S. Patent No. 5,788,388) in view of Kimura et al. (U.S. Patent No. 6,796,627). Applicant respectfully traverses the rejection as follows.

The Cowger reference appears to teach, "An ink level sensor in the housing is connected to the cartridge electrical connector, and detects whether the supply of ink is less than a threshold amount." (Abstract). The Cowger reference does not teach or suggest refilling of a print cartridge reservoir from a supply tank using a variable refill frequency resulting from when an ink volume in the supply tank substantially equals an ink volume to refill the print cartridge reservoir to a predetermined level.

In contrast, Applicant's independent claim 1, as amended, presently recites:

refilling of the print cartridge reservoir from the supply tank using a variable refill frequency resulting from when the ink volume in the supply tank substantially equals an ink volume to refill the print cartridge reservoir to a predetermined level.

Applicant's independent claim 12, as amended, presently recites:

refilling of the print cartridge reservoir using a variable refill frequency resulting from when a remaining ink volume available in the supply tank substantially equals an ink volume consumed since a previous print cartridge reservoir refill.

Applicant's independent claim 17, as amended, presently recites:

refilling of the print cartridge reservoir from the supply tank using a variable refill frequency resulting from when the ink volume in the supply tank substantially equals an ink volume to refill the print cartridge reservoir to a predetermined level.

In addition, Applicant's independent claim 27, as amended, presently recites:

means for refilling the print cartridge reservoir from the supply tank using a variable refill frequency resulting from when an ink volume remaining in the supply tank substantially equals an ink volume to refill the print cartridge reservoir to a predetermined level.

As indicated above, Applicant respectfully submits that the Kimura reference does not teach or suggest, "using a variable refill frequency resulting from when the ink volume in the supply tank substantially equals an ink volume to refill the print cartridge reservoir", as recited in independent claims 1 and 17, as amended. Nor does the Kimura reference appear to teach or suggest, "using a variable refill frequency resulting from when a remaining ink volume available in the supply tank substantially equals an ink volume consumed since a previous print cartridge reservoir refill", as recited in independent claim 12, as amended. The Kimura reference also does not appear to teach or suggest, "using a variable refill frequency resulting from when an ink volume remaining in the supply tank substantially equals an ink volume to refill the print cartridge reservoir", as recited in independent claim 27, as amended.

From Applicant's review of the Cowger reference, the reference does not cure the deficiencies of the Kimura reference. That is, Cowger does not teach or suggest, "using a variable refill frequency" resulting from when "an ink volume in the supply tank substantially equals an ink volume to refill the print cartridge reservoir to a predetermined level" or "a remaining ink volume available in the supply tank substantially equals an ink volume consumed since a previous print cartridge reservoir refill."

As such, Applicant respectfully submits that each and every element and limitation of independent claims 1, 12, 17, and 27, as amended, is not taught or

suggested by the Kimura and Cowger references, either individually or in combination. Accordingly, Applicant respectfully request reconsideration and withdrawal of the § 103 rejection of independent claims 1, 12, 17, and 27, as well as those claims that depend therefrom.

Claims 3-5 and 29 were rejected under 35 USC § 103(a) as being unpatentable over Cowger et al. (U.S. Patent No. 5,788,388) as modified by Kimura et al. (U.S. Patent No. 6,796,627) as applied to claim 1 above, and further in view of Farr et al. (U.S. Patent No. 6,874,861). Applicant respectfully traverses the rejection as follows.

Claims 3-5 and 29 depend from independent claims 1 and 27, respectively. Applicant respectfully submits that independent claims 1 and 27, as amended, are in condition for allowance. The Farr reference does not appear to cure the deficiencies of the Cowger and Kimura references. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the § 103 rejection of dependent claims 3-5 and 29.

Claim 19 was rejected under 35 USC § 103(a) as being unpatentable over Kimura et al. (U.S. Patent No. 6,796,627) in view of Shibata et al. (U.S. Patent No. 5,561,453). Applicant respectfully traverses the rejection as follows.

Claim 19 depends from independent claim 18. Applicant respectfully submits that independent claim 18, as amended, is in condition for allowance. The Shibata reference does not appear to cure the deficiencies of the Kimura reference. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the § 103 rejection of dependent claim 19.

Claims 20 and 21 were rejected under 35 USC § 103(a) as being unpatentable over Kimura et al. (U.S. Patent No. 6,796,627) as modified by Shibata et al. (U.S. Patent No. 5,561,453) as applied to claim 19 above, and further in view of Hahs et al (U.S. Patent No. 5,710,579). Applicant respectfully traverses the rejection as follows.

Claims 20-21 depend from independent claim 18. Applicant respectfully submits that independent claim 18, as amended, is in condition for allowance. The Hahs reference does not appear to cure the deficiencies of the Kimura and Shibata references. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the § 103 rejection of dependent claims 20-21.

Claim 25 was rejected under 35 USC § 103(a) as being unpatentable over Kimura et al. (U.S. Patent No. 6,796,627) in view of Farr et al. (U.S. Patent No. 6,874,861). Applicant respectfully traverses the rejection as follows.

Claim 25 depends from independent claim 23. Applicant respectfully submits that independent claim 23, as amended, is in condition for allowance. The Farr reference does not appear to cure the deficiencies of the Kimura reference. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the § 103 rejection of dependent claim 25.

Allowable Subject Matter

Applicant notes with appreciation the allowance of claims 6-11 and 13-16. Applicant has endeavored to incorporate allowable subject matter from independent claims 6 and 13 into independent claims 1, 12, 17-18, 23, and 27 in the interest of advancing prosecution toward allowance of these independent claims, as well as those claims that depend therefrom.


CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney Gregg W. Wisdom at (360) 212-8052.

At any time during the pendency of this application, please charge any additional fees or credit overpayment to the Deposit Account No. 08-2025.

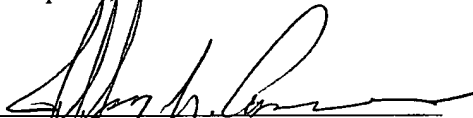
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